USSR

621.382.2:535.376 UDC

BRONSHTEYN, I. K., DOLGINOV, L. M., ZHITKOY A. I., SHLENSKIY, A. A. , LIBOV, L. D., SHARIN,

"Some Characteristics of Electroluminescent Diodes Based on Hetero PN Junctions in Al Gal-xAs"

Moscow, Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2330-2332

Abstract: The authors investigate electroluminescent diodes based on the epitaxial heterostructure P-GaAs-P-Al_xGa_{l-x}As-N-Al_yGa_{l-y}As (x ≅ 0.05, $y \approx 0.1$). The radiation from the P-Al_xGal-xAs layer propagates in a direction perpendicular to the PN junction through the transparent N-region. The emitting layer is doped with germanium to a hole concentration of about 5.1018/cc, and the N-layer is tellurium-doped to an electron concentration of about $10^{18}/cc$. The area of the PN junction is about 0.01 cm². The electrical parameters of the diodes at room temperature: specific zero--bias capacitance of the PN junction about 105 pF/cm2, current cutoff voltage 1.3-1.4 V depending on the mole fraction of aluminum arsenide in the solid solution, breakdown voltage 7 V, residual resistance 0.5 ohm or less.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR

ERONSHTETNI, I. K. et al., Radiotekhnika i Elektronika, vol 16, No 12, Dec 71, pp 2330-2332

An investigation of the principal electroluminescence characteristics of the diodes shows that they satisfy all the requirements for use as emitters in high-speed electron-optical devices. One figure, one table, bibliography of eight titles.

2/2

- 98 -

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

TTHEFT.

1/2 009

PROCESSING DATE--230CT70

TITLE--COMBINED USE OF SOME DRUGS IN ACUTE TO XOPLASMOSIS OF ALBINO MICE AUTHOR-ZHITKOVA, G.M.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 106-10

DATE PUBLISHED----70

SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXOPLASHOSIS, SULFA DRUG, DRUG TREATMENT

CONTROL MARKING--NO RESTRICTIONS

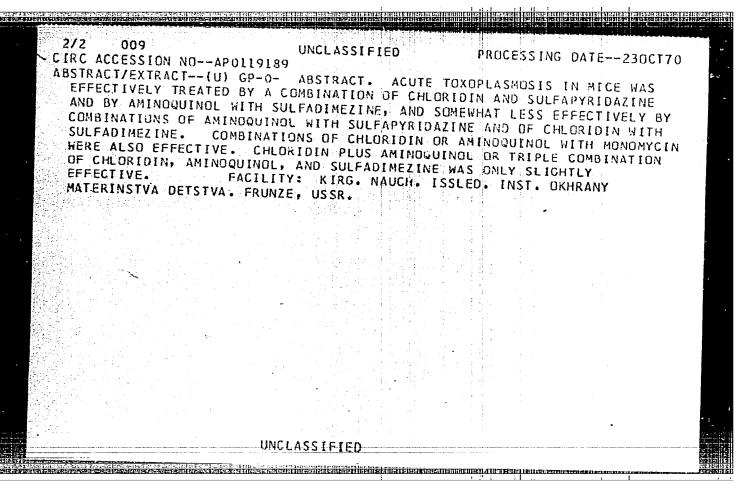
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/0193

STEP NO--UR/0390/70/033/001/0106/0110

CIRC ACCESSION NO--APOL19189

UNCLASSIFIED

CIA-RDP86-00513R002203810012-2" APPROVED FOR RELEASE: 09/01/2001



USSR

UDC 621.375.82

ZHITKOVA, M. B., KLUSHIN, V. N., PORTNYAGIN, A. I., SHOKIN, A. A.

"Continuous Laser With a Vortex Lamp"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 3, Moscow, "Sov. radio," 1972, pp 24-29 (from RZh-Fizika, No 1, Jan 73, Abstract No 1D895)

Translation: The effect of the heat condition on the parameters of the active element of a YAG-Nd crystal under continuous pumping is analyzed. It is shown that in theoretical calculations it is necessary to take into account the variation, with temperature, of the crystal characteristics at high pumping levels. The laser pumping efficiency using krypton arc tubes is compared with that using a vortex discharge. The dependence of the spread of the output radiation and the focal distance of the thermal lens on the pumping power was investigated experimentally. The nature of the distribution of double refraction induced by optical pumping for the case of coincidence of the crystallographic plane [100] with the axis of the cylindrical active element is investigated. 10 ref. Authors' abstract.

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USSR

UDC 534.26

ZHITKOVSKIY, Yu. Yu., Acoustics Institute, Moscow

"Relationship Between Reflection and Scattering of Sound by the Sea Bottom"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 4, Oct-Dec 72, pp 533-536

Abstract: Different cases which may occur in measuring the effective coefficient of sound reflection by the sea bottom by normal incidence are analyzed, neglecting the water absorption of sound during its propagation and assuming the bottom to be an uneven interface of two media reflecting the total incident sound energy. The effective coefficient of sound reflection was found to be determined by the relation of the total intensity of scattered and coherently reflected by the sea bottom signals to the intensity of the sound wave incident on the bottom. The analysis of angular dependences of the sound scattering force by the sea bottom, obtained in regions with lightly broken bottom relief which, as a rule, are the regions of underwater ridges, shows that in these regions the effective coefficient of sound reflection by normal incidence is fully determined by the reverse scattering. In a case like that, it is not always rightfully to determine the reflection coefficient from the given formula. This conclusion holds good also for regions where the sound scattering from bottom in reverse direction is principally dependent on heterogeneities of the ground and is not following the Lommel-Zeelinger rule. Eight formulas, eight biblio. refs.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

કેન્દ્રના પ્રકાશ કરાયા કરાયા પ્રાપ્ત કરે માન્ય કામ પ્રાપ્ત કરાયા છે. માનવા માનવા માનવા માનવા માનવા માનવા માનવા

1/2 - 324 UNCLASSIFIED PROCESSING DATE--230CT70
TITLE--X RADIATION AND RADIO EMISSION OF LOCAL SOLAR SOURCES -U-

AUTHOR-(03)-GELFREYKH, G.B., ZHITNIK, I.A., LIVSHITS, H.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ASTRONOMICHESKIY ZHURNAL, VOL 47, NO 2, 1970, PP 329-339

DATE PUBLISHED ---- 70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--X RADIATION, RADIO EMISSION, SUNSPOT, HELIOGRAM, RADIO TELESCOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--2000/1399

STEP NO--UR/0033/70/047/002/0329/0339

CIRC ACCESSION NO--APO125044

UNCLASSIFIED

PROCESSING DATE--230CT70 UNCLASSIFIED 2/2" 024 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EMISSION OF SOURCES OVER THREE CIRC ACCESSION NO--AP0125044 SPOT GROUPS IN THE X REGION AND CENTIMETER RADIO EMISSION RANGE DURING THE PERIOD 16-30 JUNE 1967 IS COMPARED. X RAY HELIOGRAMS WITH A RESOLUTION OF SIMILAR TO 3 PRIME IN THE REGIONS 8-14 AND 6-10 A HERE OBTAINED FROM THE SATELLITE "KOSMOS 166". THE SPECTRA OF THESE SAME SOURCES IN THE CENTINETER RANGE WERE OBTAINED FROM OBSERVATIONS WITH THE LARGE PULKOVO RADIO TELESCOPE WITH A RESOLUTION OF 1-3 PRIME. IT WAS ESTABLISHED THAT THE RELATIONSHIP BETWEEN THE DEVELOPMENT OF SPOT GROUPS, X RADIATION AND RADIO EMISSION IS EXTREMELY COMPLEX: IN ADDITION TO SIMULTANEOUS VARIATIONS THERE WAS A CASE OF DECREASE IN X AND RADIO EMISSION WITHOUT ANY CHANGES IN THE SPOT GROUP; IN ONE CASE THE RESTORATION OF RADIO EMISSION FLUKES WAS NOT ACCOMPANIED BY ANY CHANGE IN X RADIATION. IN THE FORMATION OF A NEW GROUP THE RADIO SOURCE DEVELOPED APPROXIMATELY A DAY AFTER THE APPEARANCE OF CONSIDERABLE X, RADIATION. IT IS DEMONSTRATED WITHIN THE FRAMEWORK OF THE BREMSSTRAHLUNG MECHANISM AT SHOW WAVELENGTHS LAMBDA EQUALS 2-3.2 CM (AND NOT AT LAMBDA SIMILAR TO 10 CM, AS ASSUMED BEFORE) + THAT RADIO OBSERVATIONS LIMIT THE EMISSION MEASURE TO INTEGRAL OF N SUBE PRIME2 DV IS SMALLER THAN OR SIMILAR TO 3 TIMES 10 PRIME48 CM PRIME NEGATIVE3, WHEREAS X RADIATION OBSERVATIONS INDICATE INTEGRAL OF N SUBE PRIME2 DV SIMILAR TO 3 TIMES 10 PRIME49 CM PRIME NEGATIVES AND T IS SIMILAR TO 2 FACILITY: MAIN ASTRONOMICAL OBSERVATORY FACILITY: PHYSICS INSTITUTE AND TIMES 10 PRIMESK. ACADEMY OF SCIENCES USSR. FACILITY: IONOSPHERE AND INSTITUTE OF TERRESTRIAL MAGNETISM. RADIO WAVE PROPAGATION. UNCLASSIFIED

1/2 039

UNCLASSIFIED

PROCESSING DATE--230CT70

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giranaarer Ing

TITLE--INTERCOSMOS I IN ORBIT -U-

AUTHOR-(02)-TINOD. I.P., ZHITNIK, I.A.

COUNTRY OF INFO-USSR, CZECHOSLOVAKIA, EAST GERMANY

SOURCE--PRIRODA, NO. 4, 1970, P. 78-87

DATE PUBLISHED---- 70

SUBJECT AREAS-SPACE TECHNOLOGY, ASTRONOMY, ASTROPHYSICS

FOPIC TAGS--ARTIFICIAL EARTH SATELLITE, SOLAR UV RADIATION, SOLAR X RADIATION, PHOTOMETER, POLARIMETER, SPACECRAFT CARRIED EQUIPMENT, SOLAR FLARE, SPACE PROGRAM TECHNICAL ASSISTANCE/(U)INTERCOSMOS 1 SATELLITE

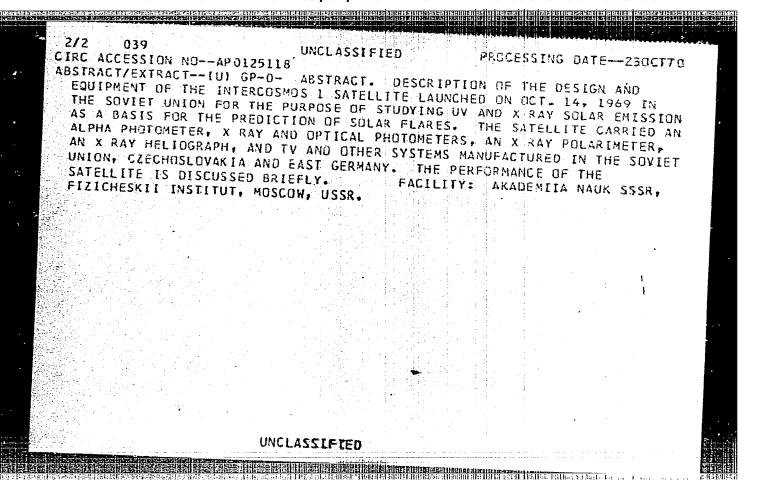
CONTROL HARKING--NO RESTRICTIONS

PROXY REEL/FRAME--2000/1490

STEP NO--UR/0026/70/000/004/0078/0087

CIRC ACCESSION NU--APO125118

UNCLASSIFIED



1/2 024

PROCESSING DATE--230CT70

TITLE--X RADIATION AND RADIO EMISSION OF LOCAL SOLAR SOURCES -U-AUTHOR-(03)-GELFREYKH, G.B., ZHITNIK, LAA. LIVSHITS, H.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, ASTRONOMICHESKIY ZHURNAL, VOL 47, NO 2, 1970, PP 329-339

DATE PUBLISHED----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--X RADIATION, RADIO EMISSION, SUNSPOT, HELIOGRAM, RADIO

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--2000/1399

STEP NO--UR/0033/70/047/002/0329/0339

CIRC ACCESSION NU--APOL25044

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

STONE DE LA PERSONA 2/2 024 UNCLASSIFIED PROCESSING DATE--230CT70 CIRC ACCESSION NO--APOL25044 ABSTRACT/EXTRACT--(U) GP-0-ABSTRACT. THE EMISSION OF SOURCES OVER THREE SPOT GROUPS IN THE X REGION AND CENTIMETER RADIO EMISSION RANGE DURING THE PERIOD 16-30 JUNE 1967 IS COMPARED. X RAY HELIOGRAMS WITH A RESOLUTION OF SIMILAR TO 3 PRIME IN THE REGIONS $8\!-\!14$ AND $6\!-\!10$ A WERE OBTAINED FROM THE SATELLITE "KOSMOS 166". THE SPECTRA OF THESE SAME SOURCES IN THE CENTINETER RANGE WERE OBTAINED FROM OBSERVATIONS WITH THE LARGE PULKOVO RADIO TELESCOPE WITH A RESOLUTION OF 1-3 PRIME. ESTABLISHED THAT THE RELATIONSHIP BETWEEN THE DEVELOPMENT OF SPOT GROUPS, X RADIATION AND RADIO EMISSION IS EXTREMELY COMPLEX: ADDITION TO SIMULTANEOUS VARIATIONS THERE WAS A CASE OF DECREASE IN X AND RADIO EMISSION WITHOUT ANY CHANGES: IN THE SPOTEGROUP; IN ONE CASE THE RESTORATION OF RADIO EMISSION FLUXES WAS NOT ACCOMPANIED BY ANY CHANGE IN X RADIATION. IN THE FORMATION OF A NEW GROUP THE RADIO SOURCE DEVELOPED APPROXIMATELY A DAY AFTER THE APPEARANCE OF CONSIDERABLE X IT IS DEMONSTRATED WITHIN THE FRAMEWORK OF THE BREMSSTRAHLUNG MECHANISM AT SHOW WAVELENGTHS LAMBDA EQUALS 2-3.2 CM (AND NOT AT LAMBDA SIMILAR TO 10 CM, AS ASSUMED BEFORE) THAT RADIO OBSERVATIONS LIMIT THE EMISSION NEASURE TO INTEGRAL OF N SUBE PRIME2 DV TSUSMALLER THAN OR SINILAR TO 3 TIMES 10 PRIME48 CM PRIME NEGATIVES. WHEREAS X RADIATION DESERVATIONS INDICATE INTEGRAL OF N SUBE PRIME2 DV SIMILAR TO 3 TIMES 10 PRIME49 CM PRIME NEGATIVES AND T IS SIMILAR TO 2 TIMES 10 PRIME6K. FACILITY: MAIN ASTRONOMICAL OBSERVATORY ACADEMY OF SCIENCES USSR. FACILITY: PHYSICS INSTITUTE AND INSTITUTE OF TERRESTRIAL MAGNETISM. FACILITY: IDNOSPHERE AND RADIO WAVE PROPAGATION. UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR

ZHITNIKOV, A. P.

"Synthesizing Discrete Circuits by the Method of Induction"

V sb. Primeneniye vychisl. tekhn. v mashinostr. (Use of Computer Technology in Machine Building-collection of works), Abstract No 8V425)

[No abstract]

[No abstract]

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Heat Treatment

USSR

WC 621.791.019

ZEMZIN, V. N., Central Committee of Heavy Industry, and ZHITNIKOV, N. P.,

"Fracture Conditions in the Near-Seam Zone of Welded Joints in Heat Treatment"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 72, pp 1-5

Abstract: The conditions under which the intersection of curves of stressrupture strength and relaxation is conducive to fracture during heat treatment were investigated. Characteristics of the heat resistance of the initial metal and an imitated near-seam zone were determined on smooth and notched specimens of 15Kh1M1F steel normalized at 1050°C and tempered at 740°C. The results of short-term investigations at elevated temperature of fatigue strength and stress relaxation are analyzed. On the basis of experimental data and an analysis of the destruction process in the nearseam zone by creep, an outline for the development of fractures during heat treatment of welded joints is suggested. Fractures in the near-seam zone of welded joints of 15Kh1M1F steel can develop from stress concentrations which can be fractures, non-fusions, and sections of sharp transitions from the initial metal to the seam. Five illustration, nine bibliographic references.

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USSR

UDC 621.791.05:669.15'24'25-194:620.183.669.786

ZHITNIKOV, N. P., Engineer, and ZAKS, I. A., Candidate of Technical Sciences

Effect of Nitrogen on the Structure of Austenitic Weld Metal

Moscow, Svarochnoye Proizvodstvo, No 8, Aug 71, pp 5-7

Abstract: The article describes results of a study of the effect of nitrogen on ferrite content in the structure of deposited chromium-nickel metal of the 20Cr-11Ni-2Mo-V and 20Cr-9Ni-No types, as well as the initial structure of ingots weighing 15 kg made of steel of the 20Cr-12Ni-Nb-V type. Estimates were made of the coefficients for the transition of nitrogen into the deposited nitrided ferrochrome. In addition, the attempt was made to establish an analytic relation between the ferrite content of the metal structure and its experimental coatings based on FA-400/10U electrodes applied to 4-nm-diameter 08Kh19N10B wire and TsT-15-1 electrodes applied to 5-nm-diameter 5v-and 20 mm wide was deposited by the multiple-bead method on plates of

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ZHITNIKOV, N. P., and ZAKS, I. A., Svarochnoye Proizvodstvo, No 8, Aug 71, pp 5-7

It was found that the austenizing effect of nitrogen in chromiumnickel metal varies according to its content in the metal and the additional alloying of the metal with niobium, Vanadium, molybdenum, and manganese. A formula is derived for calculating the ferrite content, and Delong's refined structural diagram is given. Coefficients are suggested for nitrogen in the calculation of nickel equivalents. An analysis of the calculation results shows that for an increased nitrogen content in metal built up with electrodes based on EA-400/10U and TsT-15 electrodes, coefficient 22 should be used for estimating the nitrogen in the nickel-equivalent formula, coefficient 26 for type 20-12 cast steel alloyed with niobium, vanadium, and nitrogen. For chromium-nickel metal containing up to 14 percent ferrite the ferrite content can be calculated directly according to the derived formula. There is a decrease in the coefficients for the transition of nitrogen into the deposited metal from the nitrided ferrochrome of the electrode coating with an increase in the nitrogen content of the coating. An analysis of type 20-12 steel was made by G. D. PIGROVA at the Central Scientific Research, Planning and Design Boiler

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USSR

UDC:621.791.052.01:620.192.4:669.15-194

SHRON, R. Z., NIKANOROVA, N. I., KRECHET, L. E., Urals Heat-Engineering Institute, ZEMZIN, V. N. and ZHITNIKOV, N. P., Central Boiler and Turbine Institute

"Influence of Dispersion Hardening on the Tendency of Welded Joints in Chrome-Molybdenum-Vanadium Steels Toward Brittle Rupture at High Temperatures"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 73, pp 1-3

Abstract: This work studies the influence of dispersion hardening on the ductility and tendency toward brittle rupture at high temperatures of welded joints in steels types 12Kh1MF and 15Kh1MIF. This study showed the influence of dispersion hardening in heated areas on the tendency of these alloys to local brittle ruptures during heat treatment and use in the untempered and low-tempered states. Heat treatment with high tempering increases ductility and the brittle-rupture resistance of these alloys. To prevent brittle rupture, the holding temperature of steam pipes during heat treatment should be at least 720° C.

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USSR

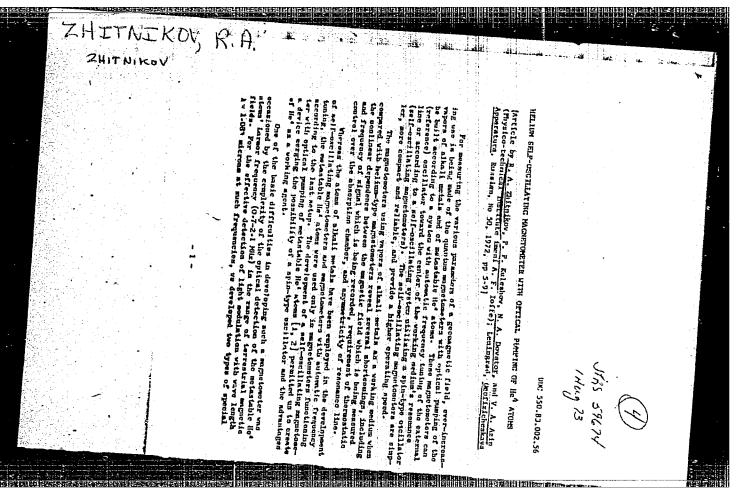
UDC 621.791.011.08:620.178.2:669.15'24'25-194

P., Engineer, and ZEMZIN, V. N., Doctor of Technical Sciences

"Tendency of Welded Joints in Chrome-Nickel Steels Toward Brittle Rupture"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, pp 10-12

Abstract: A study was made of the influence of the thickness (rigidity) of welded elements, type of dressing, and mutual placement of welded seams on the residual deformation in the area near the seam in austenitic chromenickel steels. A simple test was devised for determining the tendency of welded joints toward crack formation near the seam during heat treatment and in the process of high-temperature operation. The studies indicated that the distribution of residual transverse deformations in the area near the seam is independent of specimen thickness: the magnitude of deformation increases with increasing specimen thickness. Transverse deformations in the area of the seam of a right angle edge are greater than deformations at an edge with an inclination of 45°. Study of specimens with two notches is recommended for the rapid estimation of the resistance to brittle (local) rupture during heat treatment and high-temperature operation of welded joints. 1/1



Acc. Nr.; AP0042368

Ref. Code: UR

URO203

Spin Generator with Optical Pumping for Quantum Magnetometers

(Abstract: "Spin Generator with Optical Pumping of Metastable He⁴ Atoms for Quantum Magnetometers," by V. F. Afanas'yev, Rand. (hitmikgy and P. P. Kuleshov, Physical-Technical Institute inent A. F. Loffel: Moscow, Geomagnetizm i Aeronomiya, Vol. X, No 1, 1970, pp 183-184)

Quantum magnetometers with optical pumping of atoms of alkali metals and He⁴ atoms in a 2³S₁-state are now in broad use. Helium magnetometers are quite preferable to those employing atoms of alkali metals. However, spin generators are being used with the latter, whereas no spin generator with satisfactory characteristics has yet been devised for the optical pumping of netastable He⁴ atoms. The authors now report the development of a spin generator for the optical pumping of metastable He⁴ atoms which make it possible to construct quantum magnetometers combining the advantages of optical pumping of He⁴ atoms and the advantages of a spin generator. The principal difficulties in creating a spin generator for the optical pumping of He⁴ atoms in a 2³S₁ state arise due to a relatively high resonance Larmor frequency of these atoms in the earth's magnetic field (\sim 1.5 Mc/sec). Usually the photodiodes used in such apparatus have a large area of the p-n junction and due to a considerable capacitance have

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a low response at this light modulation frequency and the signal-to-noise ratio at the required width of the feedback amplifier band is too small. This difficulty was overcome by using a specially developed photodiode of the p-i-n type which was adequately responsive in the required frequency cange. Optical pumping of He⁴ atoms in a 2³S₁ state is accomplished using circularly polarized light with a wavelength of 1.083 Mr. In the spin generator the light modulation signal at the Larmor frequency is fed to radio-diagram of the spin generator). The frequency range in which generation diagram of the spin generator). The frequency range in which generation case, 900-1,500 kc/sec, which corresponds to a range of magnetic fields from 32,000 to 54,000 \(\gamma\).) The signal-to-noise ratio in the generation band is not worse than 30:1.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR USSR US TO UDC 77

ZHITNIKOV, R. A.

"Investigation of Neutral Silver and Copper Atoms in Various Systems by the EPR Method"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitelinosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 139-142 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1367)

Translation: The EPR method was used to study neutral atoms of the Ag¹⁰⁹ isotope stabilized in various matrices: alkali-halide crystals, borate, phosphate and silicate glasses (including photochrome), chilled aqueous and alcohol solutions of Ag salts, adsorbed layers on the surface of silica gol; also investigated in certain of these matrices (alkali-halide crystals) were stable neutral atoms of Cu⁶³ and Cu⁶⁵. The basic information on the properties of stable neutral atoms is given by the relative shift of the constant for the hyperfine

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USSR

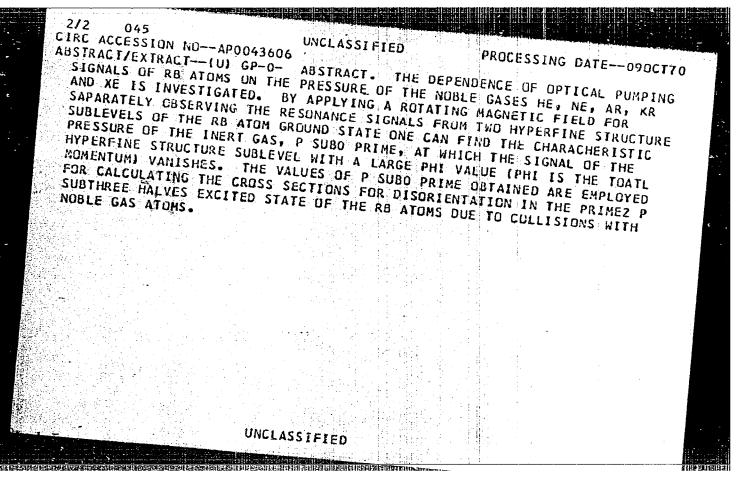
ZHITNIKOV, R. A., Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vneshtorgizdat, no year given, pp 139-142

structure of the EPR for the atoms in the given matrix as compared with free atoms. Corresponding data are given for all systems studied and it is shown that free Ag ions are present in photochrome glasses which are capable of capturing electrons under x-irradiation and transforming into Ag atoms. It is also shown that mutual transformations of Ag atoms and atomic centers are observed in these glasses under heating and illumination. Obviously, the study of stabilized neutral atoms of Ag in an AgHal lattice is also possible by the EPR method. A. L. K.

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1/2 045 TITLE-OPTICAL ORIENTATION OF PRIMESS RB AND PRIMEST RB ATOMS BY LIGHT OF THE D SUB2 LINE AND RELAXATION IN THE PRIMEZ P SUBTHREE HALVES STATE DUE PROCESSING DATE--090CT70 AUTHOR-(Q4)-ZHITNIKOV R.A., KULESHOV, P.P., OKUNEVICH, A.I., SEVASTYANOV, COUNTRY OF INFO-USSR SOURGE-ZHURNAL EKSPERIMENTAL NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, DATE PUBLISHED 70 SUBJECT AREAS-PHYSICS TOPIC TAGS-OPTIC PUMPING, RUBIDIUM, INERT GAS, GAS PRESSURE, ROTATING MAGNETIC FIELD, ELECTRON ENERGY LEVEL, HYPERFINE STRUCTURE, EXCITED CONTROL MARKING-NO RESTRICTIONS DOGUMENT CLASS—UNCLASSIFIED PROXY REEL/FRAME--1977/0006 STEP NO--UR/0056/70/058/003/0831/0842 CIRC ACCESSIUN NO-APO043606 UNCLASSIFIED



USSR

UDC 621.373.52-181.48

ZHITNIKOV, YE. I., SIMONOV, L. A., and MARTYNOVA, G. G.

"Generators Based on RC-Structures With Distributed and Lumped Parameters Made From Integrated Hybrid Circuits"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems in Microelectronics. Moscow Institute of Electronics Technology), 1972, vyp.10, pp 194-200 (from RZh-Radiotekhnika, No 11, Nov 72,

Translation: The authors describe the principal circuits and present the results of the experimental studies of RC-generators based on integrated hybrid microcircuits. The studies were carried out within a broad range of frequencies from 2 cps to 10 Mc. Data are also given on the stability of the frequency and amplitude of RC-generators and on the control of the frequency of RC-generators with the aid of varicaps of p-n-junctions. Resume.

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USSR

UDC 621.373.52-181.48

ZHITNIKOV, YE. I., VISHIN, M. G., and KORNEV, V. A.

"Generator of High-Stability Oscillations Based on Integrated Hybrid Microcircuits"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron tekhn. (Collected Scientific Works on Problems in Microelectronics. Moscow Institute of Electronics Stract No 11 D267) vyp.10, pp 188-193 (from RZh-Radiotekhnika, No 11, Nov 72, Ab-

Translation: The authors present the results from the development of a reference generator of high stability oscillations based on integrated hybrid microcircuits and designed for the production of stable time traces. The generator has two infequencies of the 150-200 kc range. Daily frequency instability and hourly frequency instability are ensured at not less than 15.10 and 1.10-7 respectively. fect of vibrations, impacts, linear acceleration, changes in external temperature, humidity, and pressure. Resume.

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USSR

UDC 539.3.01

ZHITNYAYA, V. G., SOLOSHENKO, L. I.

"The Stressed State of a Half-Plane With Two Circular Openings"

V sb. Kratk. tezisv dokl. k Konf. po povrezhdeniyam i ekspluat. nadezhnosti sudovykh konstruktsiy, 1972 (Brief Subjects of Papers at the Conference of Breakdown and Utilization of the Reliability of Ship Designs, 1972 -- Collection of Works), Vladivostok, 1972, pp 47-51 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V57)

Translation: The problem of the plane stressed state of a half-plane with two symmetrically located circular openings into which were soldered the nuclei of another isotropic material is discussed. Concentrated forces producing the plane stressed state and applied at the centers of the nuclei act on the body. An elastic potential making it possible to determine stresses and displacements in the nuclei and the half-plane is constructed for the given problem. K. A. Kitover.

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USSR

UDC 532.529

S., AL'TSHULER, L. L.

"System of Equations and Boundary Conditions Describing Dynamic Processes in

Tr. Fiz.-tekhn. in-t nizk. temperatur. AN USSR (Works of the Physicotechnical Institute of Low Temperatures of the Academy of Sciences UkrSSF.), 1970, No. 1, pp 89-101 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12B1483)

Translation: An arbitrary (nonstationary, three-dimensional) gas flow with liquid droplets of the same materials suspended in it is discussed. The droplets may have an arbitrary distribution as to dimensions or mas; m. The difference in velocities and gas temperatures and drops of various sizes, thermal and dynamic interaction between the gas and the drops, and also the effects of evaporation and condensation are taken into account. Collisions between drops are considered to be unimportant and it is assumed that in the neighborhood of an arbitrary point of the space x at a given time t all drops of one size have the same velocity, temperature, etc. A complete system of equations is derived which describes the flow studied under these assumptions. This system includes equations of continuity, momentum and energy for the gas and liquid fraction of

USSR

ZHITOMIRSKIY, I. S., AL'TSHULER, L. L., Tr. Fiz.-tekhn. in-t nizk. temperatur.

AN USSR, 1970, No. 1, pp 89-101

the drops and also the equations of state and expressions for forces, heat fluxes, condensation and evaporation rates, etc. The derivation of the conservation equations for the drops is described.

Higher Algebra & Geometry and Topology

USSR

UDC: 512.7

ZHITOMIESKIY, G. I.

"Lattice for All Congruence Ratios in a Half-Lattice"

Saratov, V. sb. "Uporvadochennyye mnozhestva i reshetki" (Ordered Sets and Lattices--collection of works) No 1, Saratov University, 1971, pp 11-21 (from Rh--katematika, No 4, 1972, Abstract No 4A338)

Translation: The element a of lattice L is said to be regular if from a $\forall x = a \lor y$, $a \land x = a \land y$ it follows that x = y for any $x, y \in L$, and is said to be distributive if any element triplet containing a is distributive. Let \mathcal{C} be a set of all simultaneously distributive regular and supplementary elements of the complete lattice L. For a_1 , $a_2 \in \mathcal{C}$, we assume $a_1 \not \sqsubseteq a_2$ if and only if $a_1 \subseteq a_2$ and $a_1 \land a_2$ is a compact element in L. It is found that $\not \sqsubseteq a_1$ determines the ordering in \mathcal{C} . The minorant subhalf-lattice I of the complete lattice L is said to be definitive if: 1) each element $i \in I$ is V-irresolvable in I; the V-basis of lattice L. Any congruence in the half-lattice I is said to be chiefly ideal if it has a unique, nontrivial class, the class being chiefly 1/2

USSR

ZHITOMIRSKIY, G. I., "Uporyadochennyye mnozhestva i reshetki", No. 1, 1971, pp 11-21

ideal in I. The principal result is: if the complete lattice L contains the definitive subhalf-lattice I, L is isomorphic to the lattice of all congruences in I; conversely, the lattice of all congruences in half-lattice I contains the definitive subhalf-lattices: the totality of all the chiefly ideal congruences. Thus, in the language of the second stage, class K of the congruence lattices is described in half-lattices. It is shown that class K is not axiomatized in elementary fashion. We note one consequence: each lattice with the supplements in class K is Boolean. V. Saliy.

2/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR

UDC: 528.526.6

LAVROV, V. N., ZHITOMIRSKIY, I.B., LUKOVATYY, Yu. S., YAKOVLEVA, N. P., VASIL YEV, Yu. F., All-Union Scientific Research Institute of Mining Geomechanics and Surveying

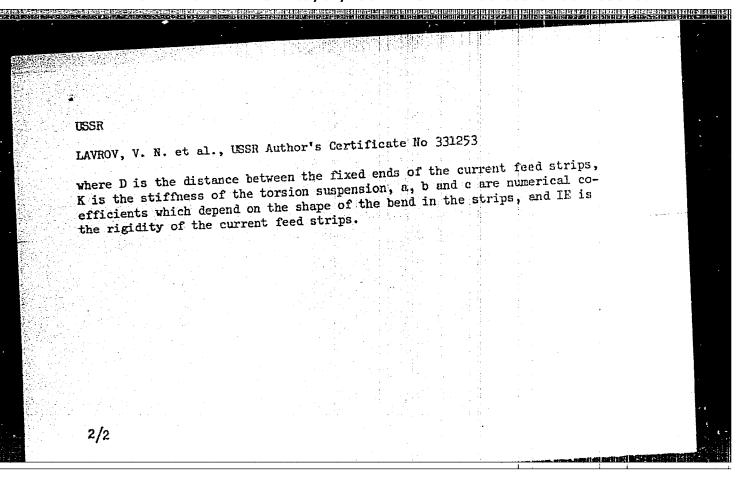
"A Miniaturized Surveyor's Gyrocompass"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331253, Division G, filed 21 Jul 67,

Translation: This Author's Certificate introduces a miniaturized surveyor's gyrocompass which contains a theodolite with autocollimation system, a trigger and a gyro attachment with pendulum sensing element on a torsion suspension and strip current feed. As a distinguishing feature of the patent, the design provides for compensation of the torque of the torsion suspension and the current feed. The current feed is made in the form of strips bent in the vertical or horizontal plane with their ends fastened to the sensing element at a distance r from its axis of rotation, where r is defined by

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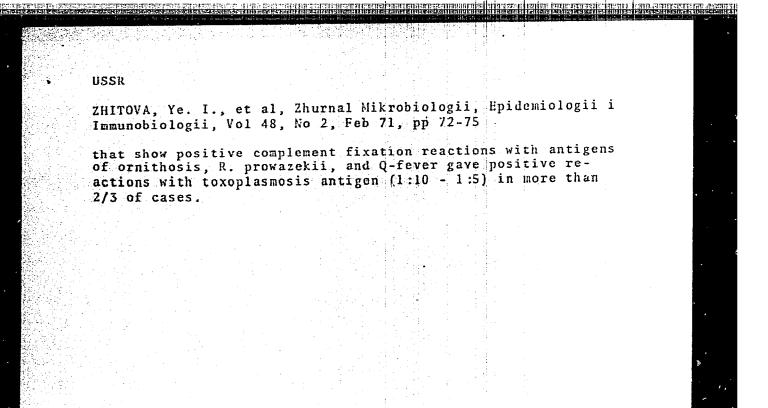
ZHITOVA, Ye. I., IPPOLITOVA, L. A., MINEYEV, A. M., SMOLINA, N. N., and STREZH, N. P., Gor'kiy Medical Institute, Gor'kiy Oblast Sanitary Epidemiological Station, and Gor'kiy City Sanitary Epidemiological Station, Gor'kiy

*Diagnostic Significance of Lot Titers of the Complement Fixation Reaction With Some Antigens"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 48, No 2, Feb 71, pp 72-75

Abstract: Sera of patients and healthy persons giving a positive reaction in the complement fixation test with ornithosis antigen also contained antibodies to R. prowazekii antigen in approximately 50% of cases. The relative frequency of ornithosis-R. prowazekii cross reactions increased with increasing titers of the R. prowazekii antigen at which a positive complement fixation reaction was obtained. To exclude diagnostic errors, repeated tests with both antigens should be carried out. Sera 1/2

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE-13NOV70
TITLE-MORPHOLOGICAL INNERVATIONAL MECHANISMS OF CEREBRAL ARTERIES AND
VEINS -U-AUTHOR.-2HITSA, V.T.
COUNTRY DF INFO-USSR
SOURCE-ARKH ANAT GISTOL EMBRIOL 58(1): 27-36. ILLUS. 1970.
DATE PUBLISHED-----70

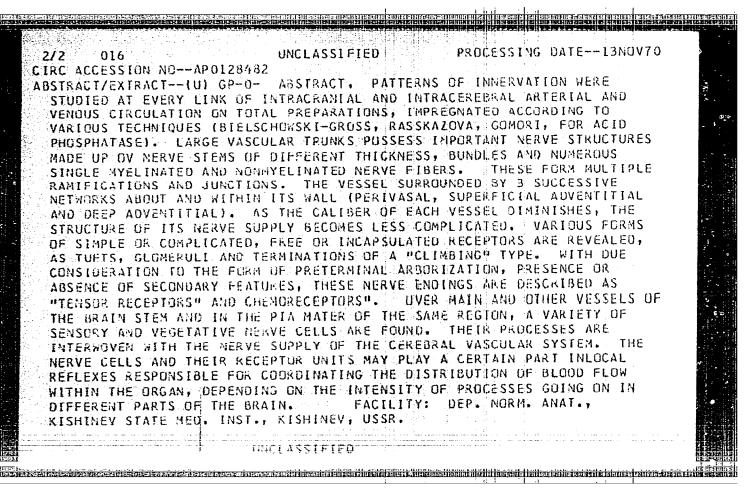
SUBJECT AREAS-BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CERCBRUM, SLOJO CIRCULATION, ANATOMY

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DOCUMENT CLASS-UNCLASSIFIED
PROXY REEL/FRAME-3002/1053 STEP NO--UR/9076/70/D58/001/002//D036

CIRC ACCESSION NO--AP0126492
UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"



USSR

UDC 621.396.6.019.3

KOFANOV, Yu. N., GIREL, P.M., ZHIV, M. I.

"Mathematical Expectation and Investigation of the Parametric Sensitivity of Converter Circuits with Modulation"

Metody razrab. radiotelektron. apparatury. Materialy Seminara. Sb. 2 (Methods of Developing Radioelectronic Equipment. Materials of the Seminar. Collection 2), Moscow, 1970, pp 60-65 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A183)

Translation: This article contains a study of a multiphase converter using a mathematical model described by a system of linear differential equations with aperiodic coefficients. As an example, a single phase autonomous parallel inverter is considered. There are two illustrations and a three-entry bibliography.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

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1/2 026 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--DYNAMIC MECHANICAL PROPERTIES OF MULTICOMPONENT POLYMERIC

COMPOSITIONS -U-

AUTHOR-(05)-ALVAZOV, A.B., ZHIVAYEV, V.YA., NIKIFOROVA, A.V., ZELFNEV,

COUNTRY OF INFO--USSR

SOURCE--MEKH. POLIM. 1970, 6(1), 138-41

DATE PUBLISHED ----- 70

SUBJECT AREAS -- MATERIALS

TOPIC TAGS--ELASTIC MODULUS, CARBON BLACK, POLYISOPRENE, POLYSTYRENE RESIN, POLYPROPYLENE, POLYVINYL CHLORIDE, LOW TEMPERATURE EFFECT, HIGH TEMPERATURE EFFECT/(U)SKI3 POLYISOPRENE, (U)SKMS30 METHYLSTYRENE RUBBER

CONTROL MARKING--NO RESTRICTIONS

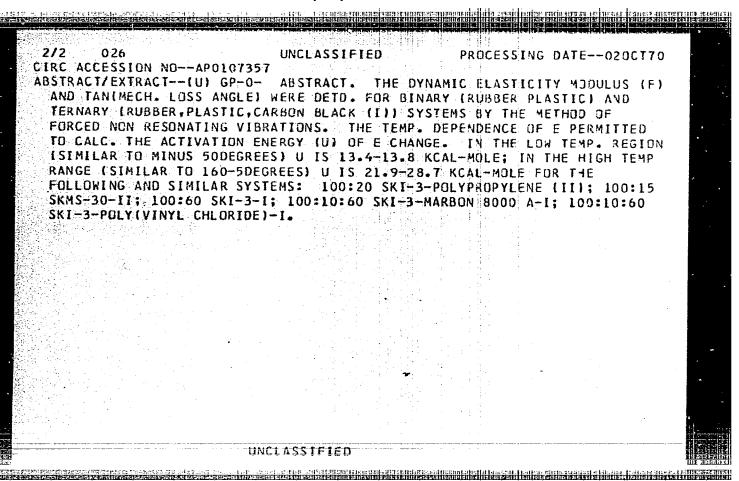
DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1989/0815

STEP NO--UR/0374/70/006/001/0138/0141

CIRC ACCESSION NO--APO107357

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"



RSSR

UDC 621.791.72:669.15-194

KASATKIN, B. S., Doctor of Technical Sciences, KOVBASENKO, S. W. Engineer, NAZARENKO, O. K., Candidate of Technical Sciences, ZADERIY, B. A., Engineer, and ZHIVAGA, L. I., Engineer, Electric Welding Institute imeni Ye. O. Paton of the Academy of Sciences UkrSSR

"Electron-Beam Welding of Low-Alloy 14Kh2GMR Steel"

Kiev, Avtomaticheskaya Svarka, No 7(244), Jul 73, pp 4-8

Abstract: A study was made of the characteristics of electron-beam welding of high-strength low-alloy 14Kh2GHR steel plates, 100 x 100 x8mm, at various heating conditions. High welding rates and small heating and cooling times result in size reduction of the metal structure in the thermal influence zone; this has a favorable effect on the strength and the impact ductility of the welded joint. At relatively high cooling rates, the joints do not show a tendency to the development of cold cracks. The mechanical properties of electron-beam welded joints are equal in quality to the initial naterial. The wide potentialities in varying the heat conditions in electron-beam welding make this

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

Welding method promising for industrial use in producing metal constructions from high-strength beinite steels. Recommendations are given for selecting optimum welding conditions for heat-treated low-alloy steels. Five figures, one table, seven bibliographic references.

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UDC: 621.398 USSR ZHIVITSA N. I., LYCHEV, V. N. "A Device for Shaping a Group Signal in a Multichannel, Digital Data Transmission System" USSR Author's Certificate No 314316, filed 6 Jan 70, published 4 Jan 72 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, Jul 72, Abstract No 7A214 P) Translation: A device is patented for shaping a group signal in a multichannel digital data transmission system with time multiplexing. The device contains binary logic multipliers of informational and auxiliary signals represented by Rademacher functions. To provide for simultanesignals with multiple keying ous transmission of several data signals are sent to the inputs of each following speeds, the data logic multiplier from the output of the preceding multiplier or from an external input, together with auxiliary binary signals of a frequency double that of the signal sent to the preceding multiplier. Two illustrations. 1/1

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USSR UDC: 535.37+621.373:535

RUBINOV, A. N., TOMIN, V. I., and ZHIVNOV, V. A.

"Shifting of the Molecular Fluorescence Spectrum in the Light Field of a Laser of Nonresonant Frequency"

Leningrad, Optika i Spektroskopiya, No 4, October 1973, pp 778-779

Abstract: A new effect is reported in this brief communication — a shift in the spectrum of fluorescent organic molecules in solution under the action of nonresonant laser radiation. The experiment detecting this effect was conducted with a solution of 10^{-5} m/ \mathscr{L} of 4-amino-N-methylphthalamide in glycerin, with the fluorescence in the solution excited by the second harmonic radiation of a ruby laser. A drawing of the absorption spectrum and the fluorescence, originally photographed from an ISP-22 spectroscope, is shown. It was found that the fluorescence spectrum was substantially shifted toward the short wave end if, in addition to the second-harmonic ruby laser radiation, the solution was put under laser radiation of the fundamental frequency. The authors think that this shift is connected with the quenching of the fluorescence and is of a solvatochromic nature.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

UDC 616--001.49

USSR

ZHIVOGLYADOVA, L. M., Kirgiz Scientific Research Institute of Mother and Child Care

"The Protective Effect of TMB-4 in Cases of Chlorophos Poisoning, as Related to Age"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 5, Sep/Oct 71, pp 27-30

Abstract: An attempt was made to learn the possibilities of using TMB-4, a cholinesterase reactivator, for poisoning in different age groups. Experiments were conducted with 12 5-10-day-old puppies and 12 grown dogs. Toxic manifestations were different in puppies and grown dogs with the same dose of chlorophos. In puppies, they were characterized by a few severe symptoms, while in dogs they were typical symptoms of organophosphorus poisoning. Signs of poisoning were considerably milder in both age groups when administration of chlorophos was combined with doses of TMB-4. It was also found that restoration of inhibitory enzymes takes place more slowly in puppies than in dogs, both in the presence and absence of TMB-4. The immaturity of a puppy's organism seemed to be the factor influencing the difference in response.

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USSR

UDC 517.949.25

BYUKOV, YA. V., ZHIVOGLYADOVA, L. V., SHEVTSOV, YE. I.

"Sufficient Conditions for the Oscillatory Nature of Solutions of Nonlinear Finite-Difference Equations"

Minsk, Differentsial'nyye Uravneniya, Vol IX, No 8, 1973, pp 1523-1524

Abstract: The function u(n) (n = 0, 1, 2, ...) is called nonoscillatory if there is a number n_0 such that for all $n \ge n_0$ either u(n) > 0 or u(n) < 0. Otherwise the function u(n) is said to be oscillatory.

The conditions of existence of oscillatory solutions of linear finite-difference equations were studied previously /M. A. Skalkina, Izv. vuzov, matematika, No 6, 138-144, 1959; A. L. Teptin, Izv. vuzov, Matematika, No 2, 120-123, 1963; Doklady III Sibirskoy konferentsii po matematike i mekhanike, Tomsk, 1964, pp 164-165; Izv. vuzov, Matematika, No 4, 140-146, 1965; Differents. uravneniya, Vol 1, No 4, 1965; Vol 2, No 11, 1966/

In the present paper a study has been made of the conditions for the oscillatory nature of the solutions of the nonlinear equation

 $\Delta[r(n)\Delta u(n)] + a(n)f[n, u(n), u(n+1)] + F[n, u(n), u(n+1)] = 0,$

 $\Delta v(n) \equiv v(n+1) - v(n) \cdot r(n), \ a(n), \ f(n, u, v), \ F(n, u, v)$ defined in the region n = 0, 1, 2, ..., $-\infty < u$, $v < +\infty$.
1/2

USSR

BYUKOV, YA. V., et al., Differentsial'nyye Upravneniya, Vol IX, No 8, 1973, pp 1523-1524

It is assumed everywhere that when $n \ge n_0$; u, v > 0: $f(n, u, v) \ge 0; \ f(n, -u, -v) \le 0; \ F(n, u, v) \ge 0; \ F(n, -u, -v) \le 0.$

UDC 517.919

BYKOV, Ya. V., ZHIVOGLYADOVA, L. V., Krasnodar Polytechnical Institute

"Concerning the Oscillatory Nature of Solutions of Nonlinear Finite--Difference Equations"

Minsk, Differentsial'nyye Uravneniya, Vol 9, No 11, Nov 73, pp 2080-2081

Abstract: The paper establishes sufficient conditions for oscillatory behavior of solutions of the equation $\Delta^2 u(n) + a(n)f[n, u(n), u(n+1)] \Psi[n, u(n), v(n)] + f[n, u(n), u(n+1)] = 0; v(n) = \Delta u(n).$

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

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1/2 015 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--ONE MORE SOURCE OF THE ADDITIONAL STRUCTURE OF DIPOLE RESONANCES
-U-

AUTHOR-(05)-ZHIVOPISTSEV, F.A., NAGAR, N.EL., SHITIKOVA, K.V., YUDIN, N.P., AKBARY, M.Y.

COUNTRY OF INFO--USSR

SOURCE-PHYS. LETTERS (NETHERLANDS), VOL. 318, NO. 6, P. 347-9 (16 AMRCH 1970)

DATE PUBLISHED--16MAR 70

SUBJECT AREAS -- PHYSICS

TOPIC TAGS--DIPOLE INTERACTION, NUCLEAR ENERGY LEVEL, NUCLEAR RESONANCE, INCLASTIC SCATTERING, PARTICLE INTERACTION, ELECTRON HOLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1992/0442

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Water Treatment

USSR

UDC 628.34

ZHIVOPISTSEV, V. P., PETROV, B. I., and PCNOSOV, I. N.

"Concentration of Radiochemical Research Wastes and Radioactive Decontamination of Waste Water by Using Diantipyrylmethane"

Leningrad, Radiokhimiya, Vol 12, No 4, 1970, pp 631-635

Abstract: The authors investigated diantipyrylmethane extraction of elements into chloroform in an thiocyanate system using elimination of cobalt from the waste solutions of radiochemical research as a specific example. It was shown that diantipyrylmethane is an effective extracting agent for Co-60, and it can be used for extraction and separation of radioactive elements and decontamination without a carrier. A method was developed for radioactive decontamination of water solutions accumulated in the process of radiochemical research and containing radioactive cobalt and other elements which are capable of forming fairly stable metal-thiocyanate complex anions (tin, iron, zinc, molybdenum, zirconium).

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1/2 007 UNCLASSIFIED PROCESSING DATE--230CT70
TITLE--CATALYTIC PROPERTIES OF CHLOROPLAST PEROXIDASE -U-

AUTHOR-(03)-RUBIN, B.A., VORONKOV, L.A., ZHIVOPISTSEVA, I.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD, NAUK SSSR 1970, 190(6), 1483-5

DATE PUBLISHED ---- 70

SUBJECT AREAS--AGRICULTURE

TOPIC TAGS--CHLOROPLAST, CATALYSIS, PHOTOSYNTHESIS, PHOSPHORYLATION, OXIDASE

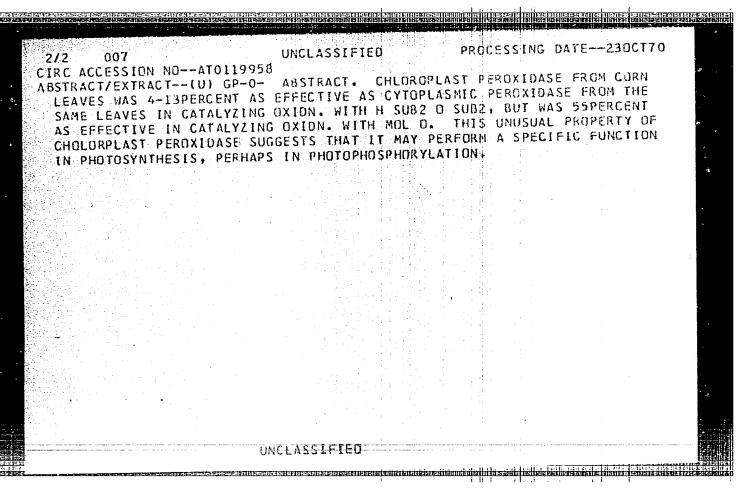
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DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1997/1099

STEP NO--UR/0020/70/190/006/1483/1485

CIRC ACCESSION NO--ATOL19958

UNCLASSIFIED



USSR

UDC 621.391.2

ALEKSEYEV, V. A., ANTONETS, M. A., GATELYUK, E. D., ZHIVORA P.S., IVANOV, B. S., KRYUKOV, A. YE., TIKHONOV, YU. A., YANKAVTSEV, M. V.

"Interference Correlometer using a Digital Computer"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 332-339

Abstract: Specific problems connected with the construction of a correlation detection system in which the receivers are located at a distance excluding the possibility of direct coupling with the correlator are discussed. The problems of constructing the interference correlometer with recording of the investigated signals at each point on magnetic tapes and calculation of the correlation function on a digital computer are considered. The peculiarities of calculating the correlation function connected with the application of superheterodyne receivers are noted, and results are presented from laboratory checking of the system. Satisfactory coincidence of the experimental and theoretical results was obtained. For 10 kilohertz < F < 75 kilohertz and T = 30 seconds, the correlation gain of the developed system $Q \approx 1000$. The investigated system can also be used for autocorrelation and cross correlation analysis of processes represented by electric signals and for spectral analysis of signals represented in analog form for multilevel quantization at a digital computer input. 1/1

USSR

VDC 577.158

RUBIN, A. B., Biology Soil Faculty, Moscow State University and Physicotechnical Institute, Moscow

"Oxidation of Ectothiorhodospira shaposhnikovii Cytochrones Induced by Ruby Laser Flashes"

Moscow, Molekulyarnaya Biologiya, No 5, 1971, pp 744-752

Abstract: Description of a differential spectrophotometer in which pulsed light from a ruby laser can excite photochemical or photobiological objects. The sensitivity of the device is about 10-4 units of optical density with a time resolution of about 10-7 sec. This device was used to study the oxidation of Ectothiorhodospira shaposhnikovii cytochrome C induced by a ruby laser 25 nanosecond flashes. Under aerobic conditions the kinetics of the oxidation process was exponential, whereas under anaerobic conditions it was the sum of two exponential components. Under both conditions complete oxidation of the cytochromes required at least two successive laser flashes at intervals of 3-10-4 sec.

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UDC: 621.396.67

ZHIVOTOVSKIY, L. A.

"Optimum Polarization of a Receiving Antenna"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 11, Nov 72, pp 2427-2428

Abstract: The author analyzes optimum polarization of a receiving entenna defined as the polarization which maximizes the power ratio of the useful signal to the sum of external interference and inherent noises in the receiver. It is found that the image of optimum polarization of a receiving antenna on a Poincare sphere lies on a great circle passing through the images of polarizations of signal and interference. The use of optimum polarization increases the effectiveness of useful signal reception against a background of intensive partially polarized interference. The results of the paper can be used in designing antenna devices in communications and radar systems.

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UDC 621.391.2

ZHIVOTOVSKIY, L. A.

"Polarization State of Signals Reflected From a Group of Independently Fluctuating Targets"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2184-2186

Abstract: A study was made of the polarization state of signals reflected from a group of independently fluctuating targets. The case of a group of two independent fluctuating targets is considered where the radar pulses reflected from these targets in the aperture of the antenna system of the radar can be represented as samples from uncorrelated quasimonochromatic partially polarized waves s₁ and s₂ not containing deterministic components. The method of extending the results of the analysis to the case of more than two independently fluctuating targets is described. The polarization

fluctuating targets is described. The polarization image of the aggregate wave on the Poincare sphere in the case of n > 2 is defined using simple geometric value of n.

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UDC 621.355,2.035.24

BESSOHOVA, T. H., BOL'SHAKOVA, N. V., ZHIVOTINSKIV P. B.

"Variation of the Structure of Porous Plates of Lead Batteries During Operation"

Sb. rabot po khim. Istochnikam toka. N.-1. akkumulvator. in-t (Collected Norks on Chemical Current Sources. Scientific Research Battery Institute), 1971, vpp. 6, 28-34 (from RZh-Khimiya, No 6 (II), Jun 72, Abstract No 61.243)

Translation: The variations in volumetric porosity, diameters and the coefficient of convolution of the pores and also the gas filling of the positive and different assembly density are defined.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR

UDC: 621.317.757

BALAKHANOV, V. Ya. and ZHIVOTOV, V. K.

"Spectrum Analyzer for Investigating Plasmas in the UHF Range"

Kiev, Izvestiya VUZ--Radioelektronika, Vol 13, No 11, 1970, pp 1291-1296

Abstract: This article discusses problems of the design of a spectrum analyzer for measuring plasma radiation close to the Langmuir frequencies. Such measurements are of interest in diagnostics and general plasma theory with nonlinear effects taken into account. The analyzer dealt with here is designed for measuring spectra within broad limits, of the order of octaves, and hence need not have high spectral resolution. As the basis of their design, the authors use the principle of holographic Fourier spectroscopy in the optical and quasi-optical ranges. The basic schematic of the analyzer is shown; its detectors, set along the longitudinal axis of a rectangular waveguide, measure the electric field of the electromagnetic waves to be analyzed. The latter are admitted into the waveguide and are reflected at its closed end to produce interference effects. The results of experiments conducted with an analyzer of this design are given, and it is concluded that it is fully acceptable for plasma work.

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UNCLASSIFIED

PROCESSING DATE--020CT70

TITLE--EXPERIMENTAL USE OF INTRACORNEAL PLASTIC LENSES -U-AUTHOR-ZHIVOTOVSKIY, D.S.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL MOLOGII, 1970, NR 2, PP 34-38

DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OPTIC LENS, CORNEA, PLASTIC, SURGICAL IMPLANT, OPHTHALMOLOGY

CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1986/0836

STEP NO--UR/0357/70/000/002/0034/0036

CIRC ACCESSION NO--APO102798

UNCLASSIFIED

2/2 033 UNCLASSIFIED EIRC ACCESSION NO--APO102798 PROCESSING DATE--020CT70 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STAMPED LENSES OF ORGANIC GLASS. GRADE CT 1 AND JICO M, WITH A DIAMETER OF 4 TO 10 MM AND 0.05 TO 0.6 MM THICK WERE IMPLANTED BETWEEN CORNEAL LAYERS IN 120 RABBIT EYES. THE POSITIVE REFRACTION LENSES INSERTED NUMBERED 67, THE NEGATIVE DNE, 33 (0.5 TO 30 D) AND THE NEUTRAL LENSES, 20. TRANSLUCENT "TAKE" OF THE IMPLANTS WAS ACHIEVED IN 42.4 PERCENT OF THE CASES, CHANGES IN THE CLINICAL REFRACTION OF THE EYE. WHICH DEPENDED UPON THE THICKNESS, DIAMETER AND REFRACTION OF THE LENS, WITH FOLLOW UP PERIODS OF UP TO 1 YEAR WERE SEEN TO OCCUR IN ALL THESE INSTANCES. THE MOST SERIOUS POSTOPERATIVE COMPLICATIONS APPEARING OVER A SPACE OF FROM 5 TO 90 DAYS WAS THE EMERGENCE OF DYSTROPHIC ULCERS ABOVE THE LENSES, WHICH HEAL LEAVING BEHIND THEM A VASCULARIZED SCAR, OR ELSE ARE ATTENDED BY PROLAPSE OF THE KERATOPROSTHESES. THE EYE TOLERATES BEST IENSES WITH POSITIVE REFRACTION, LESS SO NEUTRAL LENSES, AND VERY POORLY LENSES WITH IN THE AUTHOR'S OPINION SUCH COMPLICATIONS ARE CAUSED BY THE PRESSURE WHICH IMPLANTS EXERT ON THE CORNEAL STRUMA. THE EXTENT OF THIS PRESSURE IS DETERMINED BY GEOMETRIC SHAPES, REFRACTION OF THE LENSES AND THE DEPTH AT WHICH THEY ARE SEATED IN THE CORNEAL LAYERS. UNCLASSIFIED

USSR

UDC:621.762.4.04

ZHIVOV, L. I., SKORNYAKOV, YU. N. and NOTYCH, A. A., Zaporozhye Machine Building Institute imeni V. YA. Chubar

"Study of the Process of Hot Extrusion of Sintered Materials"

Kiev, Poroshkovaya Metallurgiya, No 2, Feb 74, pp 23-28

Abstract: The fact that not only dimensions but also volume change when porous sintered materials are deformed makes the nature of shape change and force mode somewhat different in comparison to the deformation of monolithic metals and alloys. This article studies the process of even deformation of a porous cylindrical briquette compacted in a container. The theory of plastic flow is used to analyze the process of compacting of the porous material. As a second phase of the process of hot extrusion, the ejection of the compacted material through the extrusion aperture is studied. The study establishes the relationship between the degree of deformation during extrusion and the residual porosity of the extruded piece. 1/1

- 25 -

USSR

WC 621.762.4.621.77.2

PAVLOV, V. A., ZHIVOV, L. I., SHCHERBINA, V. V., LYASHENKO, A. P., PETRYKINA, R. YA., LITVIN, Zaporozh'ye Machine Building Institute imeni V. Ya. Chubar'

"Hot Extrusion of Powdered Titanium"

Kiev, Poroshkovaya Metallurgiya, No 8, Aug 73, pp 15-19

Abstract: Hot extrusion of titanium powder was studied using a 1600 ton-force crank press. The raw powder, sintered billets, and, for comparison, sheet titanium were extruded. Both open and closed dies were used. It was observed that there was a decrease in grain size with a simultaneous increase of their total surface area, promoting intensification of intergranular diffusion which occurs with a significant increase in the diffusion rate, caused by the high specific force and temperature (950°C). Hechanical properties of briquets extruded at 950°C and heat treated by annealing at 750°C for three hours in a vacuum of 2·10°4 mm Hg are compared with briquets which were vacuum sintered at 1200°C for three hours prior to extruding and given the same heat treatment as stated above after extruding. Density and mechanical properties of the vacuum sintered briquets is slightly higher than the non-vacuum sintered briquets but not enough to warrant the additional 1/2

USSR

PAVLOV, V. A., et al., Poroshkovaya Metallurgiya, No 8, Aug 73, pp 15-19

cost of vacuum sintering. The introduction of extruded powder-titanium parts and titanium-alloy powder parts to replace cast parts will result in increased savings by using a less expensive raw material, shortening of intermediate operations, increased die strength, increased labor productivity, and decreased metal losses. Three figures, one table, three bibliographic references.

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- 47 -

Powder Metallurgy

USSR

UDC: 621.77.2

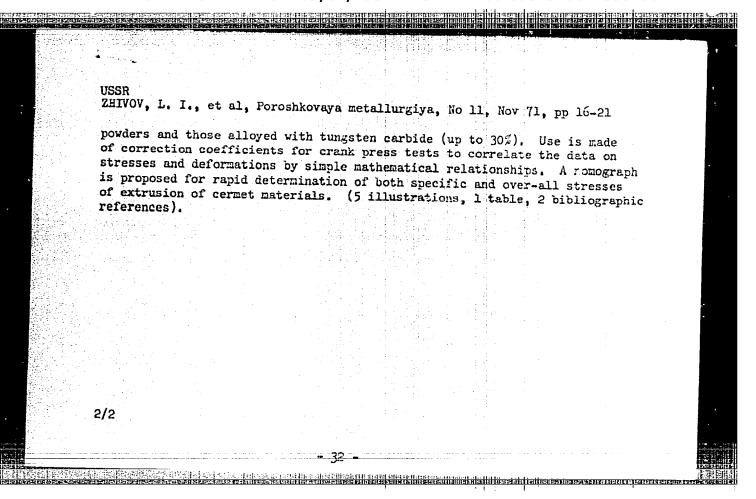
ZHIVOV, L. I., PAVLOV, V. A., SHCHERBINA, V. V., KCLESNIK, F. I. and MAKOGON, V. N., Zaporozh'ye Machine Building Institute

"Conditions for Hot Extrusion of Rods From Cermet Titanium"

Kiev, Poroshkovaya metallurgiya, No 11, Nov 71, pp 16-21

Abstract: Rods and shapes of intricate cross sections with a density close to monolithic metal may be produced from pre-compressed titanium powder briquettes with the use of appropriate equipment and the knowledge of the power energy parameters of hot extrusion (including force and work of deformation). Characteristic of hot forming of powdered metals and specifically of titanium powder is the fact that the density of the briquette in the first (nonstationary) phase of extrusion is lower than that of monolithic metal. In the second, quasi-stationary region, the densities of both the cake and the finished product are commensurate and approach that of monolithic metal. The stress-deformation relationship characteristic of a solid metal may be applied with reasonable accuracy to powdered materials. Considered here is the hot extrusion of pure titanium

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USSR

UDC 532.517.4:532.526

KORTIKOV, N. N., ZHIVOV, M. Z., and SOKOVISHIN, Yu. A., Leningrad Polytechnic Institute imeni M. I. Kalinin

"A Wall Jet on a Curved Surface"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 22, No 5, 1972, pp 881-884

Abstract: The paper deals with the propagation of a two-dimensional jet of incompressible fluid on a curved surface, spurting from a thin slit into a space occupied by the same fluid. The calculations are conducted by numerical methods by means of the profile used by N. I. Akatnov for a two-dimensional wall jet in the initial cross section. The calculation results are processed in the form of dimensionless profiles of the velocity and friction stress on the wall. It is shown that restructuring of the boundary layer takes place in the initial cross section. The calculation results are compared with those obtained by the method of perturbations. The low exactness of the method of perturbations is shown. I figure. 6 references.

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USSR

ANDRIYEVSKAYA, S. V., DARKHOVSKIY, B. S. and ZHIVOV, N. P.

"The Problem of Testing Deviations in Production Processes"

Inform. Metody v Sistemakh Upr. Izmereniy i Kontrolya. T. 1 [Information Methods in Control, Measurement and Testing Systems, Vol 1 -- Collection of Works], Vladivostok, 1972, pp 417-424 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V807).

Translation: The following problem is studied. The input vector u acts on initial system S in which it is converted to output vector y. System S itself is not subject to any deviations. Operator F, at the input of which vector u, y and external factor z, independent of u and y act, forms deviation R according to some rule. Deviation R acts on system S, changing its characteristics in the broad sense of this word. It is necessary, by observing vector y and knowing certain a priori information concerning u, z and operator F, to find deviation R as rapidly as possible.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

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USSR

681.327 UDC:

BOCHKIN, Yu. Ya., ZHIYOV, N. P., KUBANIN, Yu. Z., MOROZOV, V. Ye., RYZI-ROV, M. L., Central Scientific Research Institute of Large-Scale Automation

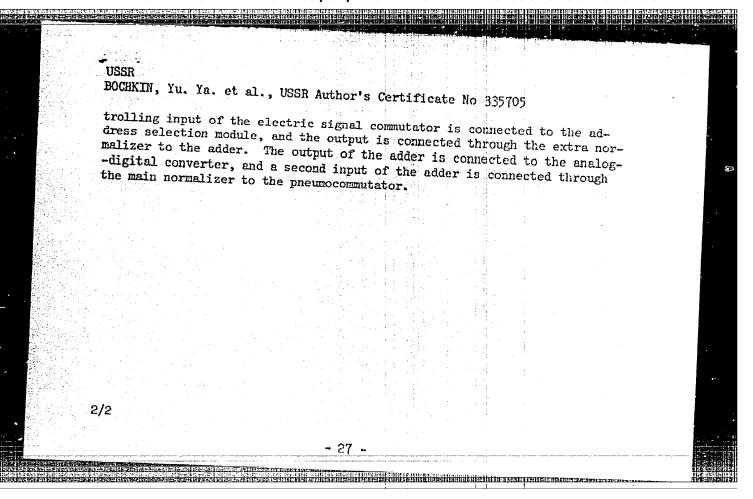
"Pneumoelectronic Accumulator of Statistical Information"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335705, Division G, filed 29 Jun 70, published 11 Apr 72, p 211

Translation: This Author's Certificate introduces a pneumoelectronic accumulator of statistical information. Connected to the input channels is a pneumocommutator controlled by an address selection module. This commutator is connected in series to a normalizer. The accumulator also contains an analog-digital converter connected through a counter to a data output module whose output is connected to a printer and a puncher. The accumulator also includes a control unit connected to a timer, to the analog-digital converter, and to the data output module. As a distinguishing feature of the patent, in order to extend the range of signals which can be monitored and to simplify the design, an electric input signal corrmutator, normalizer, and adder are incorporated in the device. The con-

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"



USSR

UDC: 534

ZHIVOV, V. A., RYKOV, V. I., YAKOVLEVA, G. S.

"Concerning Application of the Law of Corresponding States to Investigation of the Acoustic Characteristics of a Liquid"

V sb. Primeneniye ul'trankust. k issled. veshchestva (Application of Ultraacoustics to the Study of Matter-collection of works), vyr. 25, Moscow, 1971, pp 222-225 (from RZh-Fizika, No 6, Jun 72, Abstract No 6Zh526)

Translation: The method of dimensional analysis is used to find expressions for the parameters of intermolecular interaction, and speeds of sound are calculated for a large number of normal liquids. When the structural coefficient is taken into account, the divergence between theoretical and experimental velocities amounts to 2%. Bibliography of 12 titles. V. Ye. Gordeyev.

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USSR

UDC 532,526

VULIS, L. A., DZHAUGASHTIN, K. YE., ZHIVOV V. G., YARIN, L. P., Leningrad

"Propagation of a Stream of Viscous Liquid in a Medium with a Density Discontinuity"

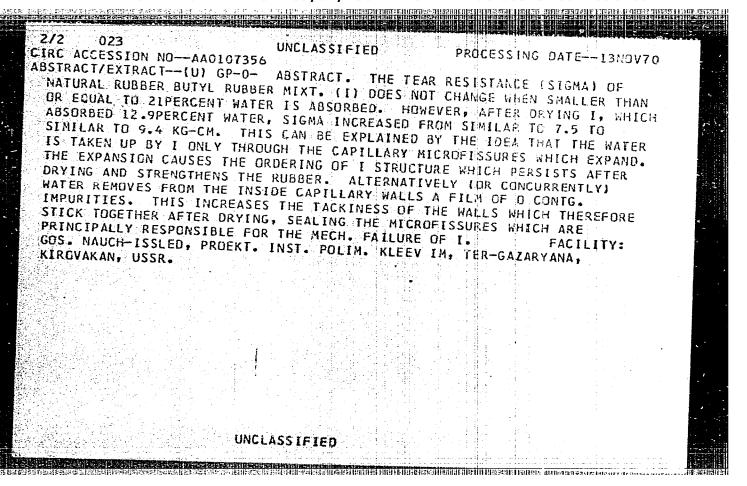
Moscow, Zhurnal Prikladnoy mekhanikiitekhnicheskoy fiziki, No 3, 1972, pp

Abstract: A study was made of the propagation of laminar and turbulent streams in a medium containing a density discontinuity. The results of an experimental study of the propagation laws of flows of a viscous fluid in such a medium are discussed for variation of the Reynolds numbers in the range of 25 < R < 20·10³. In addition to streams normal to the surface of the discontinuity (vertical), horizontal streams propagated along the interface of the heavy and light liquids (the discontinuity surface) were also investigated. Photographs and results are presented for measuring the dynamic pressure illustrating properties of the investigated streams which are unusual for a homogeneous environment — suppression of turbulence, the presence of a limiting length of the stream, its anisotropy, and so on. An approximate explanation of the observed effects is presented theory of turbulence.

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<u>กรรงกระทะเมาะเลยเท่าเลยเหลือนที่เลยที่เลยที่เลยเลี้ยนที่เก็นเลี้ยนที่ได้แต่ได้แล้วแก้ได้และสมเดอสถานสมเดอเกราะส</u>

1/2 TITLE-ANCHALOUS CHANGE IN THE STRENGTH OF RUBBERS DURING THEIR PROCESSING DATE-13NOV70 AUTHOR-(02)-PAYEVSKIY, V.G., ZHIVOVA, E.A. COUNTRY OF INFO-USSR SOURCE-MEKH. POLIM. 1970, 6(1), 136-8 DATE PUBLISHED----70 SUBJECT AREAS-MATERIALS TOPIC TAGS-NATURAL RUBBER, BUTYL RUBBER, WATER, MECHANICAL STRENGTH, CONTROL MARKING-NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME-1989/0814 STEP NO--UR/0374/70/006/001/0136/0138 CIRC ACCESSION NO-AA0107356 UNCLASSIFIED



TITLE--PRESSING OF COPPER BORGN NITRIDE TURES -U-PROCESSING DATE--020CT70 AUTHOR-(031-ZHIVOY, L.I., SKURNYAKOV, YU.N., PAVLOV, V.A. COUNTRY OF INFO--USSR SOURCE--POROSHKOVAYA MET., JAN. 1970, (1), 92-97 DATE PUBLISHED----70 SUBJECT AREAS -- MATERIALS, MECH., IND., CIVIL AND MARINE ENGE TOPIC TAGS--BORON NITRIDE, COPPER, CERMET, REFRACTORY COMPOUND, CERAMIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1940/1287

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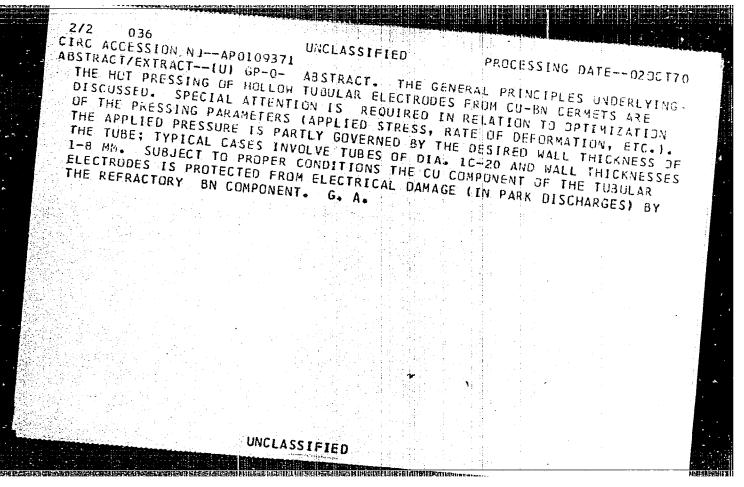
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STEP NO--UR/0226/70/000/001/0092/0097

CIRC ACCESSION NO--APO109371

UNCLASSIFIED.

PROCESSING, CERAMIC PRESSING, DEFORMATION RATE, COPPER TUBE



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UDC 51:330.115

KANTOROVICH, L. V., Academician, and ZhIYaNOV, V. I., Institute of the

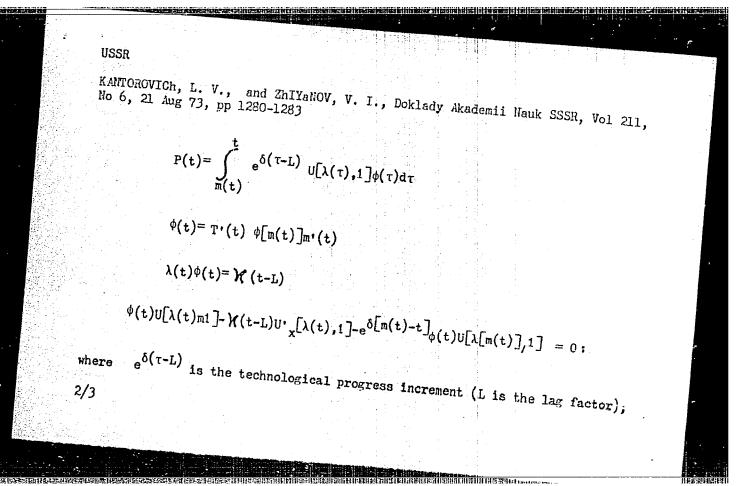
"A Single-Product, Dynamic Model of the Economy, Considering the Change in Fund Structure Occurring with Technical Progress"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 6, 21 Aug 73, pp 1280-1283

Abstract: The model is constructed in stages; 1) a basic expression for production in terms of available resources and labor; 2) a factor for technical progress, such that the production value of a given amount of capital expenditure is an exponential function of the time at which the expenditure is made; 3) a factor for additional investment (capital and labor) made available by the recovery of resources from obsolete activities; 4) a fund transfer lag function, expressing the necessary delay for the construction of capital equipment and

The factor to be optimized is chosen as dP(p), where P is pure production or national income and t is time. The model is then expressed by the following four equations: 1/3

- 11



USSR

KANTOROVICH, L. V. and ZhIYaNOV, V. I., Doklady Akademii Nauk SSSR, Vol 211, No 6, 21 Aug 73, pp 1280-1283

U is the production function, $\phi(\tau)d\tau$ is the incremental labor demand, $\lambda(\tau)\phi(\tau)d\tau$ is the incremental created resources.

T'(t) is the increment in labor resources,

m(t) is a function determining a moment earlier than t such that all resources committed prior to t are liberated at m(t),

 $\mathcal{R}(t)$ is the capital investment. Considering a small increment of time, the model yields a criterion function for capital investment efficiency. A solution of the equations to yield article.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

Hydraulic and Pneumatic

USSR

LEVSH, I. P. ZHIYAZOV. M. I., UBAYDULLAEV, A. K., MISHINA, V. N., MUKHITDINOV,

"Mass Transfer and Hydrodynamics in 3-phase Fluidized Bed Using Various Fillers"

Gidrodinamika, Teplo- i Massoobmin v Psevdoozhizh. Sloye [Hydrodynamics, Heat and Mass Transfer in Fluidized Bed], Ivanovo, 1971, pp 202-207. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1B1121, by V. A.

Translation: Studies involving fluidization of sprinkled packing (plastic rings, hollow balls and cubes) in three gas liquid systems on grid plates and overflow plates in apparatus 145 to 300 m in diameter have shown that in the initial period of fluidization of the filler in the 3-phase layer, 10-15 times greater phase contact surface is created than in a bubbling layer without filler. Movement of the filler and pulsating fluid drain through the holes in the plates facilitate intensive renewal of the phase contact surface and increased mass transfer rates. Data are presented on the influence of gas flow rate and sprinkling density on bad resistance and dynamic layer height, as well as the observed values of mass transfer coefficients and the contact surface between phases calculated according to the method suggested. 13 biblio refs.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR

UDC 669.71.48

VASHCHENKO, K. I., FIRSTOV, A. N., ZHIZHCHENKO, V. V.

"Improving the Quality of Secondary Aluminum Alloys"

<u>Usadochn. protsessy v splavakh i otlivkakh -- V sb.</u> (Shrinkage Processes and Alloys and Castings -- collection of works), Kiev, Naukova Dumka Press, 1970, pp 274-277 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G196)

Translation: The effect of degassing and refining on the mechanical and casting properties of secondary AL9V and AL10V alloys is investigated. The quality of secondary alloys is improved by effective methods of degassing and refining the alloys, for example, evacuation and blowing of the alloys with Ar as a result of which the gas porosity is decreased sharply and the water tightness and mechanical properties of the alloys are improved. There are 2 tables.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DISLOCATING STRUCTURE AND OPTICAL HETEROSENEITIES OF YITRIUM
ALUMINUM GARNET SINGLE CAYSTALS -UAUTHOR-(05)-DEDUKH, L.M., ZHIZHEYKO, I.A., BAGDASAROV, KH.S., KEYORKOV,

AUTHUR-(05)-DEDUKH, L.M., ZHIZHEYKO, I.A., BAGDASAKUV, KH.S., KEYORK
A.M., NIKITENKO, V.I.
COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 334-41

DATE PUBLISHED ---- 10

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

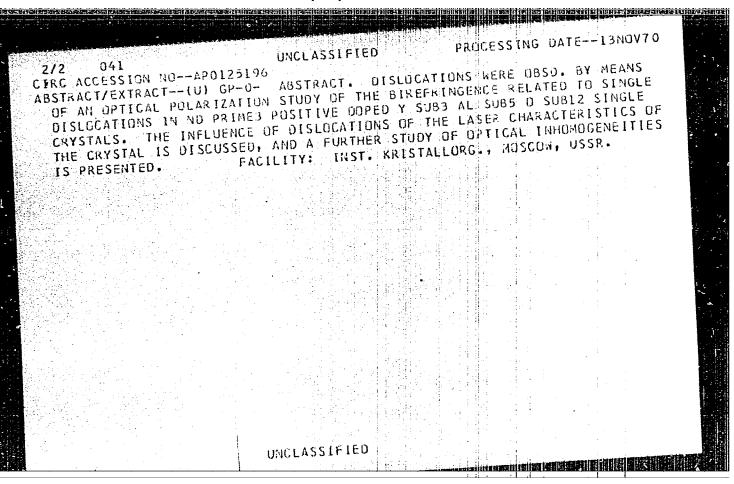
TOPIC TAGS--GARNET, SINGLE CRYSTAL, CRYSTAL DISLOCATION, YTTRIUM COMPOUND,

CONTROL MARKING--NO RESTRICTIONS

DUCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--2000/1570

STEP NO--UR/0070/70/015/002/0334/0341

CIRC ACCESSION NO--APO125196



USSR

VDC 533.916

ZHIZHIMOV, L. A., MAKARKIN, B. D.

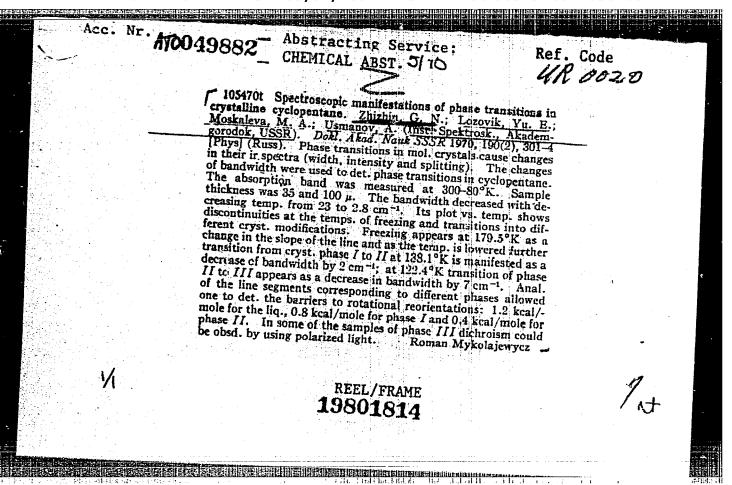
"Resonance Extinction of Electromagnetic Waves by Plasma Objects in a Rarefied Plasma"

Tr. Kirg. un-ta. Ser. fiz. n. (Works of Kirgiz University. Physical Sciences Series), 1972, No. 1, pp 81-82 (from RZh-Fizika, No 11, Nov 72, Abstract

Translation: Formulas are obtained for the cross section for scattering and absorption of electromagnetic waves by plasma formations in a medium with finite conductivity. V. A. Abramov.

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- 49 -



USSR

UDC 547.963.3

ZHIZHINA, G. P., VAYNSHTEYN, R. S., and BRAGINSKAYA, F. I., Institute of Chemical Physics, USSR Academy of Sciences, Moscow

"Study of Injury to DNA and DNP Caused by Ultrasound"

Moscow, Doklady Akademii nauk SSSR, No 5, 1973, pp 1193-1196

Abstract: Exposure of DNA to ultrasound for 1 to 10 minutes decreased the intensity of several absorption bands in the infrared spectra of the acid and resulted in the appearance of a new, unresolved band at 1190 cm-1. It also decreased the intensity of the 1650 and 1590 cm-1 bands in the region of the oscillations of the double bonds of the bases as well as the intensity of the 1010 cm⁻¹ and 960 cm⁻¹ bands in the region of the oscillations of the sugar-phosphate skeleton of DNA. Deamination of the bases following slight prolongation of sonication did not occur because the intensities of the bands of oscillations of the amino groups of the bases (3350, 3200, and 1605 cm-1) remained unchanged. Exposure of DNP to ultrasound decreased the intensity of several bands of the protein component: 3300, 3200, 2940, 1450, 1550, and 1400 cm-1. The authors conclude that DNA in the DNP complex is highly resistant and that ultrasonic degradation of the complex begins only after partial injury to the protein cont of DNP.

USSR

UDC 577.1:547.963.3

ZHIL'TSOVA, V. M., ZHIZHINA. G. P., KRUGLYAKOVA, K. Ye., and GINDIN, L. G., Institute of Chemical Physics, USSR Academy of Sciences, Moscow

"Structural Changes in Single-Strand DNA After Exposure to Ultraviolet Rays"

Moscow, Izvestiya Akademii Nauk SSR, Seriya Biologicheskaya, No 3, 1973, pp 432-435

Abstract: Ultraviolet irradiation of aqueous solutions of single-strand DNA (isolated from rat spleen) caused an exponential decrease in viscosity and optical density at 260 nm. Dimerization of the thymine bases and rupture of the polynucleotide chains resulted in partial twisting of the DNA strands.

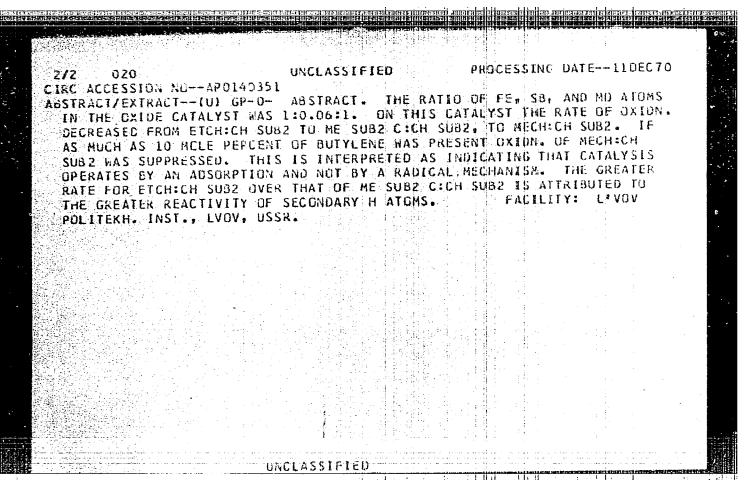
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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2

S.H.I.SNEARKUAU	, G. YA.				Biology	
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UNCLASSIFIED TITLE--- OTUAL EFFECT OF SLEFINS ON THEIR OXIDIZABILITY OVER IRON ANTIMONY PROCESSING DATE--11DEC70 MOLYBUENUM GXIDE CATALYSTS -U-AUTHOR-(G3)-FEDEVICH, YE.V., ZHIZNEVSKIY, V.M., TOLCPKO, D.K. CCUNTRY OF INFO--USSR SOURCE-UKA. KHIM. ZH. 1970, 36(4), 400-3 DATE PUBLISHED----70 SUBJECT AREAS--CHEMISTRY TOPIC TAGS--OLEPIN, CATALYTIC OXIDATION, IRON, ANTIMONY, MOLYBDENUM. BUTENE CENTROL HARKING--NO RESTRICTIONS DOCUMENT CLASS--UNCLASSIFIED PROXY FICHE NO----F070/605013/807 STEP NO--UR/0073/70/036/00+/0400/0403 CIRC ACCESSION NU--APO140351 UNCLASSIFIED



UDC 678.674.004.14:621.397

SEDOV, L. N., VLADIMIROVA, Z. V., SAPOZHNIKOVA, YE. L., MAKEYEVA, A. A., SEMENOV, L. G., MAK-MILLIN, D. M., BAKANOV, YU. A., DIDZHYULENE, D. I., MALKINA, F. S., and ZHLABIS, S. B.

"Polyester Hermetic-Sealing Compounds"

Moscow, Plasticheskiye Massy, No 6, 1970, pp 61-62

The authors studied compounds for the hermetic sealing of horizontal output transformer coils for television receivers. compounds should have low viscosity in the initial state and a high hardening rate up to 100°C. In the hardened state they should poshardening rate up to 100°C, water resistance, good mechanical and sess self-extinguishability, water resistance, good mechanical electric insulation properties, and stability of properties up to 120 C. The principal components chosen were polyester resins PN-1 and PN-69. Because of the requirement of self-extinguishability, special additives (antimony trioxide and chlorine or fluorine containing polymers) were introduced into the resins. In addition, mineral fillers (tale, mica, powdered quartz, titanium dioxide, powdered silica gel, etc.) were added to give the sealing compounds 1/2

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203810012-2"

USSR

SEDOV, L. N., et al, Plasticheskiye Massy, No 6, 1970, pp 61-62

the requisite viscosity and to lower their cost. The article gives data on the hermetic sealing process. These self-extinguishing compounds are being used for the hermetic sealing of horizontal output transformers for black-and-white (1 class) and color television sets and viewing monitors.

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त्तरकोर साम्बन्धाः । इतिकासमान्तरोद्धाः । साम्बन्धाः । साम्बन्धाः । साम्बन्धाः । साम्बन्धाः । साम्बन्धाः । सामबन्धाः । सामबन्धाः । USSR

ZHLEZNOV, N. A.

UDC 51:621.391

"On Essential Properties of Models of Physical Signals and Limiting Values of Their Basic Parameters"

Tr. Leningr. in-t aviats. priborostr. (Works of Leningrad Institute of Aircraft Instrument Building), 1972, No 74, pp 3-10 (from RZh-Matematika, No 11, Nov 72, Abstract No 11v378)

Translation: The essential properties of physical signals which should be retained in a model to avoid the rise of paradoxes are formulated. The basic properties involved here include the following: (1) random functions are finite i.e., of limited duration T; (2) the average energy is limited; (3) the predominant portion of the energy is concentrated in the effective frequency band Δf_e ; (4) in the general case the process is nonstationary relative to the correlation function. Two basic parameters are introduced: (1) the number of fundamental components N₀ having the property that they are finite, uncorrelated and carry the greatest possible portion of the energy of the signal; (2) the energy concentration coefficient K_e in Δf_e . Two methods for forming N₀ are discussed: a sequential and a simultaneous method, leading to a Karunen-Loeve-Pugachev expansion. A fundamental

USSR

ZHLEZNOV, N. A., Tr. Leningr. in-t aviats. priborostr., 1972, No 74, pp

theorem giving the best (or asymptotically best) values for N_0 and K is proved. It is shown that $N_0 \leq [2M\,f_e]$ and that K_e under the simultaneous formation of the fundamental components can be as close to 1 as desired mation of the initial signals is retained as completely as one wishes in the fundamental components. The condition under which the limiting values of the parameters are achieved is discussed. It is noted that the theorem makes it possible in using a Gaussian model to restrict oneself to a finite-problems. Authors abstract.

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UNCLASSIFIED

TITLE--KASS SPECTROMETER DATA ON THE COMPOSITION OF THE IONOSPHERIC E PROCESSING DATE-- 30UCT7.

AUTHOR-ZHLOODKO, A.D.

COUNTRY OF INFO-USSR

SOURCE-COSPAR, PLENARY MEETING, 13TH, LENINGRAD, USSR, MAY 20-29, 1970,

DATE PUBLISHED ---- MAY70

SUBJECT AREAS-MISSILE TECHNOLOGY, ATMOSPHERIC SCIENCES

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